REMARKS

I. Current Status of the Application

Claims 1, 19, 20, 22–35, and 40–46 are pending in the present application. Claims 1 and 19 are independent. Claims 2–18, 21, and 36–39 were previously canceled.

Applicants request the following amendments: cancelation of claim 31 and amendment of claims 1, 19, and 32–34. Claims 32–34 have been amended to depend from claim 1 rather than from (now canceled) claim 31. Support for amended claims 1 and 19 may be found in at least FIGS. 1 and 2a–2c and in paragraph [0024] of the published application. Accordingly, no new matter has been added.

Claims 1, 19, 20, 22–35, 40–42, 44, and 46 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2002/0077687 ("Ahn") in view of U.S. Patent No. 5,662,619 ("Zarate"). In addition, claims 1, 19, 43, and 45 stand rejected under § 103 as allegedly being unpatentable over Ahn in view of U.S. Patent No. 6,132,405 ("Nilsson").

The Applicants respectfully request reconsideration of these rejections in view of the following remarks.

II. Remarks Regarding the Rejections Based on Ahn in view of Zarate

The Applicants submit that claim 1 is patentable over the cited references at least because it recites, in part, "wherein the viscosity adjuster's at least two non-overlapping projections are ***located at the same point along the central lumen's longitudinal axis*** and define ***at least one constricted flow orifice perpendicular to the central lumen's longitudinal axis***."

The Applicants submit that claim 19 is patentable over the cited references at least

because it recites, in part, "wherein the viscosity adjuster's at least two non-overlapping projections are ***located at the same point along the central lumen's longitudinal axis*** and define ***at least one constricted flow orifice perpendicular to the central lumen's longitudinal axis***."

Neither Ahn nor Zarate, individually or in combination, teach a viscosity adjuster having at least two non-overlapping projections located at the same point along a longitudinal axis of a lumen and defining at least one constricted flow orifice perpendicular to the longitudinal axis, as recited by claims 1 and 19.

Nevertheless, the Office action asserts that the combination of Ahn and Zarate renders claims 1 and 19 of the present application obvious. Applicants respectfully note that, as discussed in *KSR Int'l Co. v. Teleflex Inc.*, it remains necessary to identify the reason why a person of ordinary skill in the art would have been prompted to combine alleged prior art elements in the manner as claimed. 550 U.S. 398, 418 (2007). Mere conclusory statements are insufficient. *Id.*; MPEP § 2143.01(IV).

Claim 1 of the present application recites a device for delivery of a non-Newtonian fluid to a target site, an example of which is shown in Figure A below. In this example, the device includes a channel (11) extending therethrough and a viscosity adjuster. The viscosity adjuster of this example includes at least two non-overlapping projections (55) extending in a substantially perpendicular direction from the channel walls. These projections may define an orifice (12). As a non-Newtonian fluid passes through the viscosity adjuster, its viscosity is adjusted, thereby ensuring that the fluid is properly injected into the target site without unwanted backflow.

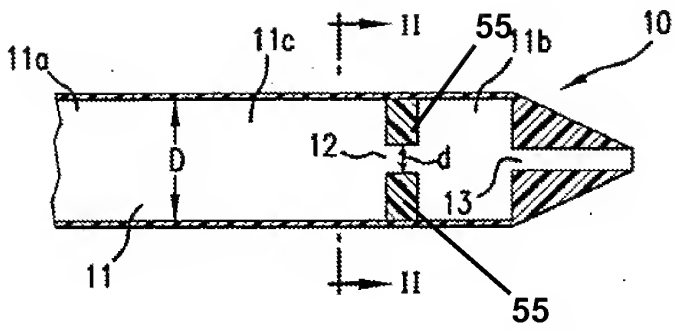

Figure A: FIG. 1 of the Published Application with Annotations

Additional examples of the viscosity adjuster are shown in Figure B below. As shown in these figures, the orifices (12) may vary widely in shape, size, and number. Note, however, that the orifices are substantially perpendicular to the channel (11), as shown in Figures A and B.

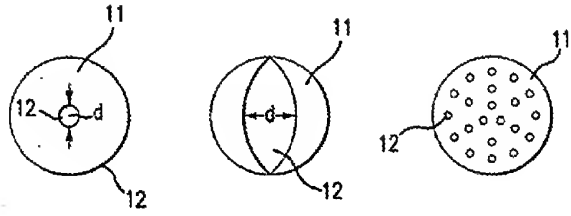

Figure B: FIGS. 2a, 2b, and 2c of the Published Application

Ahn, on the other hand, discloses a catheter assembly for deploying cellular pellets into a heart muscle. As shown in Figure C below, the assembly includes dual lumens (28, 30) containing an anchor wire (32) and a seeding catheter (44). The seeding catheter includes an articulating distal tip (51). Ahn fails to disclose a viscosity adjuster. However, the Office action asserts that Zarate teaches this feature.

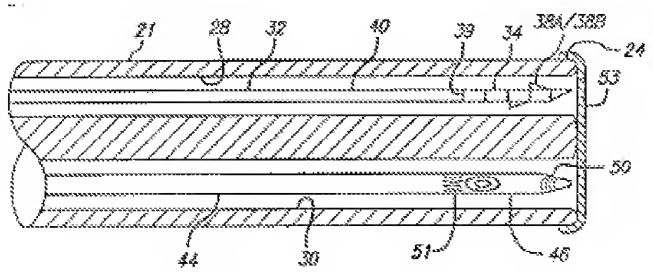

Figure C: A Portion of FIG. 5 of Ahn

Zarate descibes a dialysis needle, as shown in Figure D below. This needle has a shaft (12) through which blood (11) flows. The shaft includes diverters (18) that aid in diverting blood (11) through lateral openings (20) in the walls of the shaft.

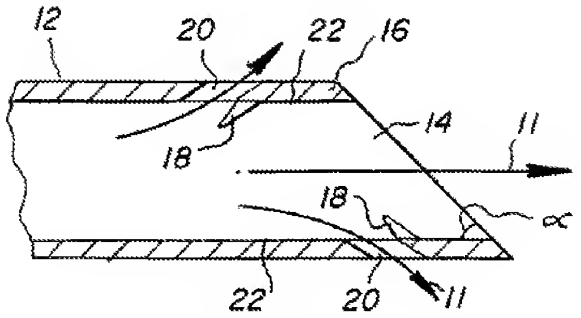

Figure D: FIG. 10 of Zarate

The device of amended claim 1 is distinct from the combined Ahn/Zarate device, however. While a device in accordance with amended claim 1 of the present application includes a viscosity adjuster having at least two non-overlapping projections located at the same point along a longitudinal axis of the lumen and defining at least one orifice perpendicular to the longitudinal axis, the combined Ahn/Zarate device, at best,describes the use of diverters to divert blood flow through lateral channels. As shown in Figure D above, Zarate's diverters are not located at the same position along the channel's longitudinal axis. Rather, the upper diverter is located farther upstream than the lower diverter.

Further, these diverters do not define "at least one constricted flow orifice." Although the Office action asserts that Ahn teaches that "the channel contains a single oval flow orifice (near 46 [of Figure C])" (Office Action at 3), nothing in Ahn discloses this structure as being defined by at least two projections extending from a wall of the channel. At best, this alleged orifice is merely a hole in the lateral wall of a catheter, an element entirely different from that of the viscosity adjuster's orifice-defining projections within a lumen. A comparison of Figure A and

Figure C above reveals this and other differences. For example, the alleged orifice of Ahn is not defined by at least two non-overlapping projections. Rather, this element is, at best, a lateral hole in a catheter wall, a structure that certain embodiments of the present invention seek to avoid. (*See, e.g.*, Present Application at cl. 43 (reciting that the walls of the channel "have no lateral openings").)

For at least these reasons, the Office action has failed to show that the prior art references render claim 1 of the present application obvious. Specifically, the combined Ahn/Zarate device fails to disclose a viscosity adjuster having at least two non-overlapping projections located at the same position along a longitudinal axis of the channel and defining at least one constricted flow orifice perpendicular to the longitudinal axis, as recited by amended claim 1. Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection of claim 1 and all claims depending therefrom.

Claim 19 as amended contains similar limitations to those added to claim 1 by this amendment. Thus, for at least the reasons noted above regarding amended claim 1, the Office action has failed to show that the prior art references render claim 19 of the present application obvious. Specifically, the combined Ahn/Zarate device fails to disclose a method of delivering a fluid to a target site using a viscosity adjuster having at least two non-overlapping projections located at the same position along a longitudinal axis of the channel and defining at least one constricted flow orifice perpendicular to the longitudinal axis, as recited by amended claim 19. Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection of claim 19 and all claims depending therefrom.

III. Remarks Regarding the Rejections Based on Ahn in view of Nilsson

The Applicants submit that claim 1 is patentable over the cited references at least because it recites, in part, "wherein the viscosity adjuster's at least two non-overlapping projections . . . define ***at least one constricted flow orifice perpendicular to the central lumen's longitudinal axis***."

The Applicants further submit that claim 19 is patentable over the cited references at least because it recites, in part, "wherein the viscosity adjuster's at least two non-overlapping projections . . . define ***at least one constricted flow orifice perpendicular to the central lumen's longitudinal axis***."

Neither Ahn nor Nilsson, individually or in combination, teach a viscosity adjuster having at least two non-overlapping projections that define at least one constricted flow orifice, as recited by claims 1 and 19. Nevertheless, the Office action asserts that the combination of Ahn and Nilsson renders claims 1 and 19 of the present application obvious.

As discussed above, Ahn fails to show a viscosity adjuster. However, the Office action alleges that Nilsson teaches this feature.

Nilsson describes a dialysis catheter, as shown in Figure E below. This catheter includes a plurality of oblong (22), circular (21), and angled (44, 45) holes formed in the lateral walls of the catheter. The catheter further includes restrictions (42) that may be welded or bonded to the catheter.

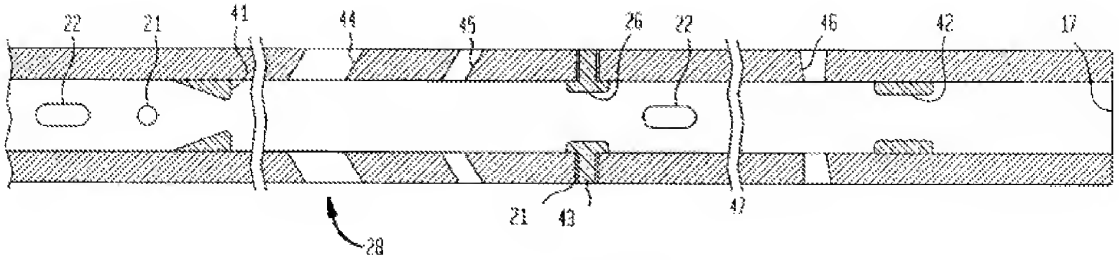

Figure E: FIG. 7 of Nilsson

The device recited by amended claim 1 of the present application is distinct from the combined Ahn/Nilsson device, however. While a device in accordance with amended claim 1 includes a viscosity adjuster having at least two projections defining at least one orifice (*see* Figure B, *supra*), the Ahn/Nilsson device at best discloses the use of restriction "bumps" at specific points in the catheter to allow for improved placement of numerous lateral holes. Nothing in Nilsson discloses the use of a viscosity adjuster having a cross-sectional configuration such as those shown in Figure B above.

For at least these reasons, the Office action has failed to show that the prior art references render claim 1 of the present application obvious. Specifically, the combined Ahn/Nilsson device fails to disclose a viscosity adjuster having at least two non-overlapping projections defining at least one constricted flow orifice perpendicular to the longitudinal axis, as recited by amended claim 1. Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection of claim 1 and all claims depending therefrom.

Claim 19 as amended contains similar limitations to those added to claim 1 by this amendment. Thus, for at least the reasons noted above regarding amended claim 1, the Office action has failed to show that the prior art references render claim 19 of the present application obvious. Specifically, the combined Ahn/Nilsson device fails to disclose a method of delivering a fluid to a target site using a viscosity adjuster having at least two non-overlapping projections defining at least one constricted flow orifice perpendicular to the longitudinal axis, as recited by

amended claim 19. Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection of claim 19 and all claims depending therefrom.

CONCLUSION

In light of the above remarks, the Applicants respectfully submit that the present application is in condition for allowance. The Applicants earnestly solicit favorable reconsideration and issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at 202.220.4256 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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/Bryan Nese/
Bryan Nese
Reg. No. 66,023

KENYON & KENYON LLP
1500 K Street, NW – Suite 700
Washington, DC 20005
Telephone: 202.220.4200
Facsimile: 202.220.4201
Customer No.: 23838